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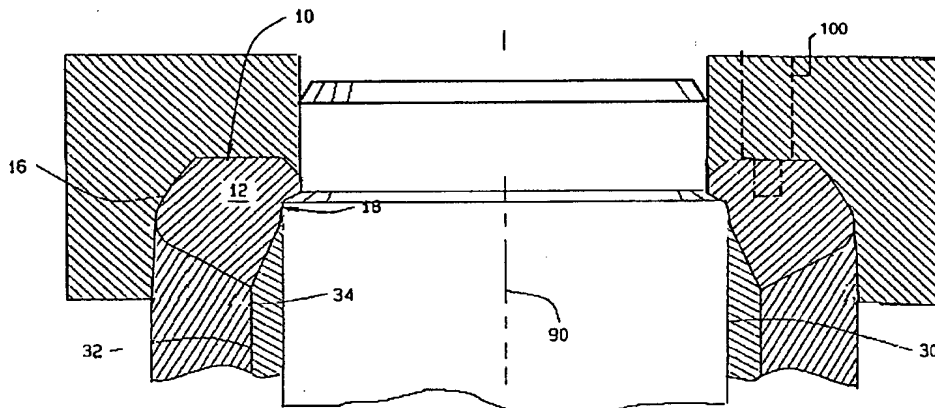
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(54) Title: RING GEAR AND MANUFACTURING METHOD FOR SUCH A RING GEAR



(57) Abstract: A method of manufacturing a forged article (10) including a surface (18). The method includes defining a negative tooling pattern (52) based on the surface and providing a tooling set (28) having an anvil (30) and top (36) and bottom die (34). An upper surface (40) of the bottom die conforms to the negative tooling pattern. When the tooling is assembled the anvil extends through the bottom die and defines an axis. Additionally, the bottom and top dies cooperate to define a die cavity (76). A hollow blank (38) is preheated and placed on an anvil and into the die. In a single stroke, the hollow blank is pressed between the top and bottom dies in a pressing direction that is parallel to the axis. The preheating temperature  $T_w$  is a function of the homologous temperature ratio  $T_w/T_m$  is between .62 and .80, where  $T_m$  is the absolute melting temperature of the alloy.